

What is claimed is:

1. A method comprising:
detecting the attachment of a remote storage device to a network; and
5 automatically incorporating storage capacity of the remote storage device into a logical storage volume.
2. The method of claim 1, wherein incorporating the storage capacity comprises incorporating the storage capacity into an existing logical volume.
- 10 3. The method of claim 1, wherein incorporating the storage capacity comprises incorporating the storage capacity into a new logical volume.
4. The method of claim 1, further comprising automatically expanding a size of a
15 storage space provided by a file system to include the storage capacity.
5. The method of claim 1, wherein incorporating the storage capacity comprises incorporating the storage capacity according to one or more pre-defined policies.
- 20 6. The method of claim 5, wherein incorporating the storage capacity comprises:
forming a network-based connection with the remote storage device;
creating a physical volume for the remote storage device; and
adding the physical volume to a volume group.
- 25 7. The method of claim 5, further comprising selecting the volume group from a number of volume groups based on one of the pre-defined policies.
8. The method of claim 1, wherein detecting the attachment of the remote storage device comprises intercepting a request from the remote storage device for an
30 Internet Protocol (IP) address.

9. The method of claim 1, wherein detecting the attachment of the remote storage device comprises receiving a multicast message from the remote storage device.
10. The method of claim 1, wherein incorporating the storage capacity comprises
5 automatically controlling a logical volume manager (LVM) in response to the detected remote storage device.
11. The method of claim 8, wherein automatically controlling the LVM comprises:
instantiating a network driver to form a network-based connection with the
10 remote storage device;
directing the LVM to create a physical volume for the remote storage device as if the remote storage device were local to the LVM; and
directing the LVM to add the physical volume to a volume group.
12. A computer-readable medium having instructions contained therein for causing a
15 programmable processor to to:
detect the attachment of a remote storage device to a network; and
automatically incorporate storage capacity of the remote storage device
into a logical storage volume.
- 20 13. The computer-readable medium of claim 12, wherein the instructions cause the processor to incorporate the storage capacity into an existing logical volume.
14. The computer-readable medium of claim 12, wherein the instructions cause the
25 processor to incorporate the storage capacity into a new logical volume.
15. The computer-readable medium of claim 12, wherein the instructions cause the
processor to automatically expand a size of a storage space provided by a file
system to include the incorporated storage capacity.
- 30

16. The computer-readable medium of claim 12, wherein the instructions cause the processor to incorporate the storage capacity according to one or more pre-defined policies.

5 17. The computer-readable medium of claim 12, wherein the instructions cause the processor to:

form a network-based connection with the remote storage device;
create a physical volume for the remote storage device; and
add the physical volume to a volume group.

10

18. The computer-readable medium of claim 17, wherein the instructions cause the processor to select the volume group from a number of volume groups based on a pre-defined policy.

15 19. The computer-readable medium of claim 12, wherein the instructions cause the processor to intercept a request from the remote storage device for an Internet Protocol (IP) address.

20 20. The computer-readable medium of claim 12, wherein the instructions cause the processor to receive a multicast message from the remote storage device.

21. The computer-readable medium of claim 12, wherein the instructions cause the processor to automatically control a logical volume manager (LVM) in response to the detected remote storage device.

25

22. The computer-readable medium of claim 21, wherein the instructions cause the processor to:

instantiate a network driver to form a network-based connection with the remote storage device;

30 direct the LVM to create a physical volume for the remote storage device as if the remote storage device were local to the LVM; and

direct the LVM to add the physical volume to a volume group.

23. A system comprising:

a logical volume manager (LVM) executing in an operating environment
provided by a computer;

a network attached storage (NAS) sensing module configured to detect the
attachment of a remote storage device to a network; and

a NAS management module configured to interact with the LVM and
automatically incorporate storage capacity of the detected remote storage device
into a logical storage volume.

24. The system of claim 23, wherein the NAS management module directs the LVM
to incorporate the storage capacity into an existing logical volume.

25. The system of claim 23, wherein the NAS management module directs the LVM
to incorporate the storage capacity into a new logical volume.

26. The system of claim 23, wherein the NAS management module automatically
expands a size of a logical storage space provided by the operating environment
to include the storage capacity of the remote storage device.

27. The system of claim 23, further comprising a policy manager to define one or
more policies for incorporating the storage capacity of the remote storage device.

28. The system of claim 23, wherein the NAS management module directs the LVM
manager to incorporate the storage capacity by forming a network-based
connection with the remote storage device, creating a physical volume for the
remote storage device and adding the physical volume to a volume group.

29. The system of claim 28, wherein the NAS management module selects the volume group from a number of volume groups based on the policies defined by a policy manager.

5 30. The system of claim 29, wherein the NAS sensing module intercepts a request from the remote storage device for an Internet Protocol (IP) address.

31. The system of claim 23, wherein the computer is configured to maintain a pool of IP addresses and conform to the Dynamic Host Configuration Protocol (DHCP),
10 and further wherein the NAS sensing module is configured to intercept a request from the remote storage device for an IP address.

32. The system of claim 23, wherein the NAS sensing module is configured to receive a multicast message from the remote storage device.

15 33. The system of claim 23, wherein the NAS management module is configured to automatically instantiate a network driver to form a network-based connection with the remote storage device, direct the LVM to create a physical volume for the remote storage device as if the remote storage device were local to the LVM
20 and directing the LVM to add the physical volume to a volume group.

34. A system comprising:

a network attached storage (NAS) device; and

25 a NAS master remotely coupled to the NAS device via a first network and configured to automatically incorporate storage capacity of the storage device into a logical storage volume when the NAS storage device is attached to the first network.

35. The system of claim 34 further comprising a client computer coupled to the NAS
30 master via a second network and configured to access the logical storage volume.

36. The system of claim 34, wherein the NAS master is configured to automatically expand a size of a storage space mapped to the logical volume.
37. The system of claim 34, wherein the NAS master comprises a policy manager to define one or more policies for incorporating the storage capacity.
38. The system of claim 34, wherein the NAS master is configured to maintain a pool of IP addresses and conform to the Dynamic Host Configuration Protocol (DHCP).
39. A method comprising:
- adding a remote storage device to a network; and
 - incorporating the storage capacity of the remote storage device into the network without substantial human intervention.
40. The method of claim 39, wherein incorporating the storage capacity comprises:
- detecting the attachment of a remote storage device to a network; and
 - automatically incorporating storage capacity of the remote storage device into a logical storage volume.
41. The method of claim 39, wherein incorporating the storage capacity comprises incorporating the storage capacity into an existing logical volume.